Cynel

microlens array 22 having an improved fill factor, as previously described with respect to Figs. 1 through 9.

In the Claims

Please amend claims 60, 73, 87, and 99 to read as follows:

60. (Twice Amended) A method of forming a microlens array for use in an imaging device, said method comprising the steps of:

providing a substrate having an array of pixel sensor cells formed thereon and a protective layer over the cells;

forming a spacer layer in contact with the protective layer;

forming a lens forming layer over and in contact with the spacer layer;

forming a microlens array from said lens forming layer; and

forming a radiation transparent insulation layer on said microlens array for increasing the proportion of radiation incident on said pixel sensor cells, wherein said insulation layer includes silicon insulator material and is formed by a low temperature process.

73. (Twice Amended) A method of forming a microlens array for use in an imaging device, said method comprising the steps of:

forming a lens forming layer on an imaging device;

treating said lens forming layer to form a plurality of microlenses; and

depositing a radiation transparent insulation layer on each microlens for increasing the proportion of radiation incident on said pixel sensor cells, wherein said

Application No.: 09/686,943

Docket No.: M4065.0112/P112-A



insulation layer includes silicon insulator material and is formed by a low temperature process.

87. (Twice Amended) A method of forming a microlens array for use in an imaging device, said method comprising the steps of:

forming a lens forming layer of radiation curable resin on an imaging device;

patterning said lens forming layer to form a plurality of lens forming regions;

treating said plurality of lens forming regions with a radiation exposure step to form a plurality of microlenses; and

forming a radiation transparent insulation layer on the plurality of microlenses for increasing the proportion of radiation incident on said pixel sensor cells, wherein said insulation layer includes silicon insulator material and is formed by a low temperature process.

99. (Twice Amended) A method of forming a microlens array for use in an imaging device, said method comprising the steps of:

forming a lens forming layer on an imaging device, wherein the lens forming layer is a layer of material selected from the group consisting of optical thermoplastic, polyimide, and thermoset resin;

patterning said lens forming layer to form a plurality of lens forming regions;

heat treating said plurality of lens forming regions to form a plurality of microlenses; and

depositing a radiation transparent insulation layer on the plurality of microlenses for increasing the proportion of radiation incident on said pixel sensor cells, wherein said

Application No.: 09/686,943

Docket No.: M4065.0112/P112-A



insulation layer includes silicon insulator material and is formed by a low temperature process.